

STROPPING DEVICE FOR SAFETY RAZORS.

1,007,416.

Patented Oct. 31, 1911.

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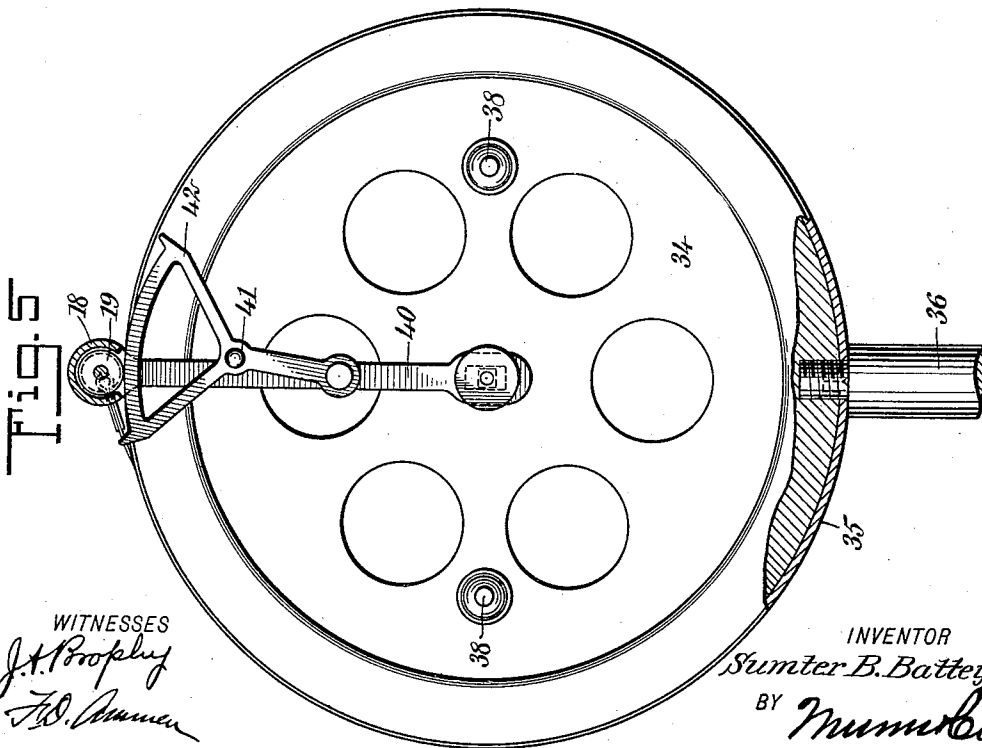
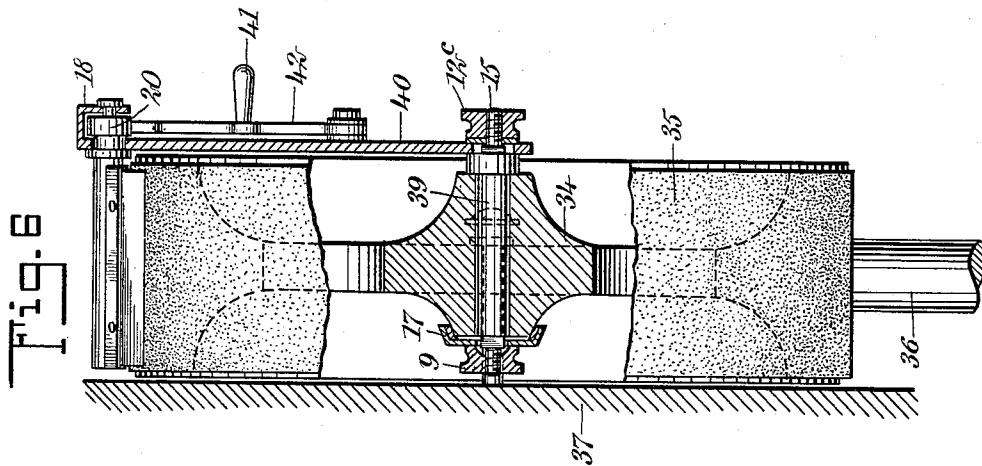
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2 SHEETS-SHEET 2.



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STROPPING DEVICE FOR SAFETY-RAZORS.

1,007,416.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed December 14, 1907, Serial No. 406,452. Renewed March 27, 1911. Serial No. 617,501.

To all whom it may concern:

Be it known that I, SUMTER B. BATTEY, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Stropping Device for Safety-Razors, of which the following is a full, clear, and exact description.

This invention relates to stropping devices for sharpening the blades of safety razors.

The object of the invention is to produce a stropping device in which the razor blade will be given a rotary movement relative to the strop, to provide improved means for adjusting the inclination of the blade with relation to the strop and to provide improved means for preventing the pressure on the blade from passing beyond a safe limit, such as would tend to break or bend the blade.

A further object is to provide a construction for the device which will enable it to be supported in the hand to operate it, or attached to and supported in a fixed position as upon a wall.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an edge elevation of a stropping device constructed according to my invention, certain parts being broken away and shown in cross section. This view represents the device mounted upon the wall. Fig. 2 is an elevation showing the inner side of the stropping device, certain parts being broken away and others shown in cross section. This view represents the device as being held in the hand in use. Fig. 3 is a side elevation of the wall plate shown in section in Fig. 1; Fig. 4 is a cross section through the device at the point where the razor is held; Fig. 5 is a side elevation and partial

section showing a modified form of the device adapted to be attached to a wall or supported in the hands during operation; Fig. 6 is an edge elevation and partial section further illustrating the form shown in Fig. 5, and Fig. 7 is a horizontal cross section through a wall plate which supports the device.

Referring more particularly to the parts as illustrated in Figs. 1 and 2, 1 represents a circular block having a rim 2, on the outer face of which a suitable strop 3 is attached by inserting its ends 4 tightly in a slot 5, as shown. The block 1 is formed at its center with a hub 6 in which there is held a pivot bolt 7. This pivot bolt is provided with a head 8 which seats against the hub, and it is held in position by means of a thumb nut 9 screwed upon a reduced threaded tip 10 at the opposite side of the block. Adjacent to the head 8 a short square neck 11 is formed on the axis of the bolt 7, and beyond this neck a threaded tip or stem 12 is formed. Upon the stem 12 there is mounted a thumb nut 12^a, which is formed with a reduced neck 12^b and an enlarged head or button 12^c therebeyond. An arm 13 is disposed radially, and at its inner end is provided with a longitudinally disposed slot 14 which is received over the square neck 11, as indicated most clearly in Fig. 1. This arm is clamped rigidly in position by the thumb nut, a washer 16 being disposed under the inner face of the nut, as indicated. A cup-shaped washer 17 is provided under the thumb-nut 9 and this washer seats at a square neck 17^a formed on the bolt, as indicated. The outer extremity of the arm 13 is formed into a hollow head or case 18, which is of substantially circular form, as shown in Fig. 1. In this head there is rotatably mounted the end of a roller 19, the body of which roller extends transversely across the face of the strop. Within the case 18 the roller 19 is provided with a rigid friction wheel 20, which is formed of rubber or similar material.

The under side of the head or case 18 is formed with a slot 21, as indicated in Fig. 2,

and in this slot there is received the rim 22 of a segment or reverser 23, which segment is attached by means of a pivot screw 24 to the side of the arm 13 at an intermediate point of the length thereof, as indicated. The segment 23 is provided with a handle 25 by means of which the device is operated in a manner which will appear more fully hereinafter. As indicated in Fig. 4, the roller 19 is provided with a longitudinally disposed slot 26 which extends into the same from the end opposite to the friction wheel 20. This slot receives a blade holder 27 which is formed with oppositely disposed wings 28 adapted to clamp the blade 29 therebetween, as shown. These wings are connected integrally by a resilient sleeve or roll 30 which normally tends to hold the wings apart, as will be readily understood. One of the wings is provided with pins 31 which lie opposite to openings 32 formed in the opposite wing.

The razor blade is provided with the usual openings which are engaged by the pins when the blade is held in position as shown in Fig. 4. In placing the blade in the device, it should be understood that the holder is applied to the blade as indicated, and it is then slid longitudinally into the slot 26.

In order to enable the device to be removably mounted upon the wall, I provide a wall-plate 7^a, which is of elongated form presenting a central slot 7^b with inwardly projecting side edges or flanges 7^c; the upper end of this slot is open and the bottom end is closed, so as to form a pocket or rounded socket 7^d at this point.

When the device is set upon the wall, the thumb-nut 12^a is introduced at the upper end of the slot and the edges of the button or head 12^c being received behind the flanges 7^c; the reduced neck 12^b passes through the slot 7^b, as shown. When the thumb-nut seats at the bottom of the slot, it holds the bolt 7 in a horizontal position; as the thumb-nut moves into position, the handle 25 is also passed into the upper end of the slot 7^b, as indicated in Fig. 1.

On the side of the block 1, a turning handle 33 is attached, as shown; and at any point on the face of the block, a threaded opening 1^a is formed through the strop, for the purpose of enabling a holding handle 36 to be removably attached for a purpose which will appear hereinafter. Suppose that, by means of the handle 33, the block 1 which constitutes a wheel is rotated continuously toward the right, as viewed in Fig. 2. The segment 23 is held by the wall plate at the handle 25; as the block rotates, the friction developed at the washer 17 rotates the bolt and the arm 13; in so doing the friction wheel 20 advances on the segment 23 and rotates the blade over to the position shown in Fig. 2. When the direc-

tion of rotation of the block is reversed, the arm swings in this reversed direction and reverses the position of the blade. In this way both sides of the blade may be readily applied to the strop and the razor reverses automatically, with a reversal of movement of the block.

The thumb-nut 9 affords means for giving a slight frictional resistance to the movement of the arm, which insures that the razor blade will reverse before any movement of the arm takes place.

By reason of the construction described for attaching the arm to the pivot bolt 7, the position of the razor, that is, its degree of inclination with respect to the strop, may be adjusted. If it is desired that the razor blade shall lie more closely upon the strop, the arm 13 will be adjusted inwardly by means of its slot 14, and secured in this new position. If it is desired to hold the blade in a less inclined position, the arm will, of course, be adjusted outwardly.

By reason of the fact that the contact between the rim 22 and the friction wheel 20 is entirely frictional, there is little danger of too great a pressure occurring at the point where the blade rests upon the strop; for, if the pressure should become too great, the rim 22 would yield or slip upon the wheel 20. This I consider a valuable feature of the invention, as it tends to prevent breaking the blades in stropping them.

The device, as illustrated in Fig. 1, may be adapted at once for operation, held in the hand by attaching the holding handle 36 in the opening 1^a, as illustrated in Fig. 2. In using the device thus, the block is held firmly by grasping the handle 36 in the left hand; the handle 33 is then seized and the arm 13 rocked back and forth. This has the effect of applying the razor blade to the face of the strop and automatically reversing its position when the direction of rotation is reversed.

In Figs. 5 and 6, I show a modified form in which 34 indicates the block carrying a continuous band 35, which is the strop, and provided on its stropping face with a handle 36. This block is removably attached to the wall 37 by two screws or similar fastening devices 38, but there is no connection with the wall at the pivot bolt 39. In this form, the side handle 33 of the preferred form is absent, but in other respects the construction is identical with that of the preferred form. In operating this form, the arm 40 is reciprocated by means of the handle 41 of the segment 42, which holds the blade on the strop and reverses its position automatically, as will be readily understood. If the fastenings 38 are removed, the block can be held by the handle 36 with one hand, while the arm 40 is reciprocated with the other hand.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a rotary stropping device, in combination, a member having a circumferentially disposed face adapted to hold a strop, a reversible member adapted to hold a razor blade and carrying a friction wheel, and a member frictionally engaging said wheel, driving the same yieldingly and affording means for reversing said reversible member when the stropping movement is reversed.
2. In a rotary stropping device, in combination, a member having a circumferentially disposed face adapted to carry a strop, a pivotally mounted member, holding means for reversibly holding the razor blade on said member to apply the edge thereof to said strop, and means for adjusting said holding member to change the inclination of the razor blade at said strop.
3. In a rotary stropping device, in combination, a block having a curved face for the strop, an arm having a pivotal movement on said block, means for reversibly holding a razor blade on said arm, and means for adjusting the length of said arm.
4. In a rotary stropping device, in combination, a block having a curved face for the strop, a pivot bolt mounted in said block, an arm having an adjustable connection with said bolt, a roller mounted in said arm and holding the razor blade against said strop, a segment mounted on said arm, and a wheel on said roller engaging said segment to reverse said roller and said blade.
5. In a rotary stropping device, in combination, a block, a pivot bolt mounted thereupon, an arm having a slot receiving said bolt and attached thereto, means for subjecting said arm to a frictional force during the stropping movement, and a roller carried by said arm and holding the razor blade.
6. In a rotary stropping device, in combination, a block, an arm attached to said block, a roller mounted in the said arm, projecting across the face of said block and carrying the razor blade, a friction wheel carried by said roller, a segment pivotally mounted on said arm and engaging said friction wheel to reverse said blade, and means for holding a part of said segment fixed.
7. In a rotary stropping device, in combination, a rotatable block having a curved face for the strop, a pivot bolt mounted in said block, an arm fixed to said bolt, means for clamping said bolt to impart a frictional force to said arm when said block rotates, a segment pivotally mounted on said arm, and a roller carrying the razor blade and adapted to be reversed.
8. In a stropping device, in combination, a block having a circumferentially disposed

face carrying a strop, a movable member actuated by frictional force developed by the stropping movement, a reversible razor holder, and means for actuating said razor holder by said movable member.

9. In a stropping device, in combination, a fixed bracket, a rotatable block mounted thereupon and carrying a strop, a blade-holder, means for guiding said blade holder along the face of said block, and a reverser connected with said bracket and engaging said blade-holder, and affording means for reversing said blade holder when the stropping movement reverses.

10. In a rotary stropping device, in combination, a rotatable block having a circumferentially disposed face carrying a strop, a reversible blade-holder mounted adjacent to said strop, and friction actuated reversing means operated by reversing the rotation of said block.

11. In a rotary stropping device, in combination, a wall plate, a block rotatably mounted thereupon, an arm pivotally mounted on said block, a roller mounted in the end of said arm and adapted to hold a razor against said strop, a reversing segment pivoted on said arm, a wheel on said roller engaging said segment, and means for engaging said segment with said wall plate to reverse said roller when the stropping movement is reversed.

12. In a rotary stropping device, in combination, a rotatable block having a stropping face, a reversible blade holder cooperating therewith, a movable member affording means for reversing said blade-holder and having a handle, and a wall-plate supporting said block and receiving said handle to actuate said blade holder when the stropping movement is reversed.

13. In a rotary stropping device, in combination, a rotatable block having a stropping face, a reversible blade-holder cooperating therewith, a reverser mounted to have a limited movement and having a handle projecting laterally, a wall plate having a slot receiving said handle and a member projecting from said block near the axis of rotation thereof and received in said slot to support said block.

14. In a rotary stropping device, in combination, a rotatable block, a member projecting therefrom having a reduced neck and an enlarged head therebeyond, a reversible blade-holder, a reverser having a limited movement, affording means for receiving said holder and having a projecting handle, and a wall plate having a slot with projecting lips engaging said reduced neck and receiving said handle to operate said reverser.

15. In a rotary stropping device, in combination a block having a stropping face, a pivot bolt in said block, an arm on said pivot

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bolt, a thumb-nut on said bolt, a blade-
holder, a reverser pivotally mounted on said
arm, connected with said holder to reverse
the same, and having a laterally projecting
5 handle, and a wall plate having a slot receiv-
ing said thumb-nut to support said block
and receiving said handle to actuate said re-
verser when the stropping device is operated.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

SUMTER BEAUREGARD BATTEY.

Witnesses:

EVERARD B. MARSHALL,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
